



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

1007

FERNALD

LOG K-2515

SEP 25 11 10 AM '97

FILE 6446.3

REPLY TO THE ATTENTION OF:

SRF-5J

SEP 24 1997

Mr. Johnny W. Reising
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

RE: WAC Attainment Plan

Dear Mr. Reising:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the United States Department of Energy's (U.S. DOE) Waste Acceptance Criteria (WAC) attainment plan for the On-Site Disposal Facility (OSDF).

This document describes the WAC attainment approach for wastes to be disposed in the OSDF.

Although U.S. EPA concurs with U.S. DOE's approach to use existing Remedial Investigation/ Feasibility Study data to assist in delineating soil and waste areas exceeding the WAC, this approach will not adequately assure all areas are characterized for WAC. U.S. DOE must further detail the link between existing data, future sampling and real time instrumentation to fully characterize materials for WAC attainment. U.S. EPA also has several other technical issues that must be resolved, which are detailed in the attached comments.

Therefore, U.S. EPA disapproves the WAC attainment plan. U.S. DOE must submit responses to comments and a revised document within thirty (30) days receipt of this letter.

1007

2-408

-2-

Please contact me at (312) 886-0992 if you have any questions regarding this matter.

Sincerely,



James A. Saric
Remedial Project Manager
Federal Facilities Section
SFD Remedial Response Branch #2

Enclosure

cc: Tom Schneider, OEPA-SWDO
Bill Murphie, U.S. DOE-HDQ
John Bradburne, FERMCO
Terry Hagen, FERMCO
Tom Walsh, FERMCO

TECHNICAL REVIEW COMMENTS ON
"WASTE ACCEPTANCE CRITERIA ATTAINMENT PLAN
FOR THE ON-SITE DISPOSAL FACILITY"

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

GENERAL COMMENTS

Commenting Organization: U.S. EPA
Section #: Not Applicable (NA) Page #: NA
Original General Comment #: 1

Commentor: Saric
Line #: NA

Comment: The U.S. Department of Energy's (DOE) approach to waste acceptance criteria (WAC) attainment for the on-site disposal facility (OSDF) involves using historical data to direct a physical sampling and analysis effort that allows for characterization of remediation waste as being above or below the WAC. However, DOE's approach does not provide for screening of all materials to be disposed of in the OSDF. In addition, DOE's approach appears to rely on assumptions that cannot be justified at this time. Basically, DOE's approach to WAC attainment does not entirely ensure that materials to be disposed of in the OSDF meet the WAC. For example, DOE's characterization of soils does not appear to consider the potential presence of localized, "hot spot" contamination that is currently unknown to DOE (see Original Specific Comments 3, 10, 11, and 12).

DOE has spent considerable resources in attempting to apply real-time monitoring techniques, specifically the high-purity germanium (HPGe) detector and the radiation tracking system (RTRACK), in order to provide characterization support for the soils remediation project. The ability of these technologies to provide definitive measurements of contaminant concentrations at the site is still in question, although based on discussions between DOE and the regulatory agencies, the technologies may be suitable for screening soils for WAC attainment. Incorporation of these technologies in the WAC attainment plan (WAC plan) may ensure that no material exceeding the WAC is disposed of in the OSDF. If DOE were to incorporate these technologies into the WAC plan, the objectives and limitations associated with the technologies would need to be clearly identified. DOE should consider revising the WAC plan to incorporate these technologies or other means for ensuring that no waste exceeding the WAC will be disposed of in the OSDF.

Commenting Organization: U.S. EPA
Section #: NA Page #: NA
Original General Comment #: 2

Commentor: Saric
Line #: NA

Comment: The WAC plan and the sitewide excavation plan (SEP) provide similar information related to the soils remediation project. In many cases, cross-references between the two documents either are not provided or are difficult to follow. For example, Section 4.2.2.3 on Page 4-28 of the WAC plan lists the contingency plans to be followed when unexpected wastes and unusual conditions are encountered during operations, while Appendix F.4 of the SEP provides more detail on the subject. However, no references to Appendix F.4 of the SEP are provided in Section 4.2.2.3 of the WAC plan. In this and other cases, the WAC plan references the SEP but does not specify particular sections or page numbers. DOE should revise the WAC plan to clarify its references to the SEP.

Commenting Organization: U.S. EPA
Section #: 4.2.2.2 Page #: NA
Original General Comment #: 3

Commentor: Saric
Line #: NA

Comment: The text in Section 4.2.2.2 and numerous other sections states that the lead-contaminated soil in the South Field Firing Range may receive on- or off-site treatment before its disposal in the OSDF. Lead-contaminated soil in the South Field Firing Range is covered by the Operable Unit (OU) 2 record of decision (ROD), which designates only off-site treatment and disposal for this soil. Therefore, the WAC plan is inconsistent with the OU2 ROD. DOE should revise the WAC plan to address this discrepancy.

SPECIFIC COMMENTS

Commenting Organization: U.S. EPA
 Section #: 2.6.1
 Original Specific Comment #: 1

Page #: 2-11

Commentor: Saric
 Line #: 5

Comment: The text refers to organic vapor surveys that will be used to identify soil contaminated with organic solvents at concentrations potentially incompatible with the OSDF earthen liners. DOE should take extreme care to ensure that the integrity of the earthen liners is not impacted by soils containing organic solvents. Therefore, DOE should provide an overview of the sampling methodology (including sampling frequency and coverage) and identify the field screening action levels to be used to assess the presence of organic solvents in soil. The WAC plan should be revised accordingly.

Commenting Organization: U.S. EPA
 Section #: 2.6.2
 Original Specific Comment #: 2

Page #: 2-12

Commentor: Saric
 Line #: 4

Comment: The text states that the materials containing "the highest amounts" of technetium-99 will be packaged and shipped off site for disposal. It is not clear what is meant by "the highest amounts." DOE should revise the text to specify the technetium-99 concentration that will be used to make waste segregation and off-site shipment determinations.

Commenting Organization: U.S. EPA
 Section #: 2.6.5
 Original Specific Comment #: 3

Page #: 2-14

Commentor: Saric
 Line #: NA

Comment: The text discusses Resource Conservation and Recovery Act (RCRA) characteristic waste restrictions. The absence of a section regarding RCRA listed waste implies that no RCRA listed wastes remain at the site. However, Section 2.6.1 (Page 2-11) and other sections refer to the solvent spill areas as containing RCRA constituents of concern (COC). The WAC plan should be revised to describe general procedures for ensuring that RCRA listed wastes are identified and undergo proper treatment and disposal.

Commenting Organization: U.S. EPA
 Section #: 3.1
 Original Specific Comment #: 4

Page #: 3-2

Commentor: Saric
 Lines #: 19-21

Comment: The text states that if a material that arrives at the OSDF for disposal is "too wet" for proper placement and compaction, the material will be mechanically processed before its placement. It is not clear how DOE will

4

determine whether material is "too wet." Use of Method 9095A (Paint Filter Liquids Test) or Method 9096 (Liquid Release Test [LRT] Procedure) in "Test Methods for Evaluating Solid Waste (SW-846)" with a suitable endpoint for acceptance would be appropriate. The text should be revised to identify the criteria that DOE will use to determine whether material is "too wet" and requires mechanical processing before its placement in the OSDF.

Commenting Organization: U.S. EPA
Section #: 3.2
Original Specific Comment #: 5

Page #: 3-2

Commentor: Saric
Line #: 37

Comment: The text states that transformers will be restricted from disposal in the OSDF if they have not been crushed or had their void spaces filled with grout. Page 3-2, Line 13 states that materials containing free liquids will be excluded from the OSDF. Transformers may contain oils that could leak out and affect the integrity of the OSDF liner. Therefore, the WAC plan should specify that transformers accepted for disposal in the OSDF will be drained of all oils.

Commenting Organization: U.S. EPA
Section #: 4.1
Original Specific Comment #: 6

Page #: 4-4

Commentor: Saric
Line #: 19

Comment: The text states that monitoring for organic vapors will be performed as a best management practice. The WAC plan should be revised to describe the monitoring plan and method or to reference this information.

Commenting Organization: U.S. EPA
Section #: Figure 4-2
Original Specific Comment #: 7

Page #: 4-5

Commentor: Saric
Line #: NA

Comment: The manifest provided in the figure appears to be inconsistent in its use of the abbreviations "HTL" and "MTL." The figure should be revised to resolve this inconsistency.

Commenting Organization: U.S. EPA
Section #: 4.2.1.2
Original Specific Comment #: 8

Page #: 4-11

Commentor: Saric
Line #: NA

Comment: The text refers to 13 contaminants that will not require additional verification because the WAC for each is at least one order of magnitude above the highest level detected. One of the 13 contaminants identified is tetrachloroethene. Table 4-1 identifies the highest positive detection for tetrachloroethene as 48.00 milligrams per kilogram (mg/kg) and the WAC for this contaminant as 128 mg/kg. The text should be revised to state that DOE will conduct standard volatile organic analyses to verify that concentrations of tetrachloroethene are below the WAC.

Commenting Organization: U.S. EPA
Section #: 4.2.1.2
Original Specific Comment #: 9

Page #: 4-13

Commentor: Saric
Line #: 2

Comment: The text states that the single indicated detections of 4-nitroaniline and trichloroethene and the two positive

detections of bis(2-chloroisopropyl)ether are all estimated values. It is not clear why the detection values for these COCs are estimated. The text should be revised to clarify this matter.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 4.2.1.2

Page #: 4-13

Lines #: 12-15

Original Specific Comment #: 10

Comment: The text refers to specific locations that contain above-WAC concentrations of contaminants requiring further verification. The definitive nature of the text does not adequately reflect the assumptions on which the text is based. DOE cannot assume that above-WAC concentrations of these contaminants do not exist in other areas. The text does not reflect the possibility that unknown localized, "hot spot" contamination may exist in other areas. The text should be revised to more accurately describe what is known and unknown regarding soil contamination.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 4.2.1.2.2

Page #: 4-20

Line #: NA

Original Specific Comment #: 11

Comment: The text identifies areas containing elevated concentrations of organic solvents or related substances. The areas identified include 18 hazardous waste management units (HWMU) and six underground storage tank (UST) sites. The approach for monitoring for the presence of organic solvents in soils does not address the potential presence of solvents from old, unrecorded spills that may have occurred in Remediation Areas 3, 4, 5, and 6. The implicit assumption that spills resulting in organic solvent contamination did not occur in areas other than those identified in the text is inappropriate. The text should be revised to explain how DOE will monitor for the presence of organic solvents from unknown spills.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 4.2.2

Page #: 4-26

Lines #: 5-6

Original Specific Comment #: 12

Comment: The text states that the soil excavation sequence and methods will ensure that above-WAC soil is not transferred to the OSDF. Without screening all the material to be disposed of in the OSDF, DOE cannot ensure that all the material meets the WAC. The WAC plan should be revised to specify the means by which DOE will provide full screening of the material to be disposed of in the OSDF.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 4.2.2.2.2

Page #: 4-28

Line #: 3

Original Specific Comment #: 13

Comment: The text refers to uranium metals that will be characterized as waste and disposed of off site. The text should be revised to specify that the uranium metals will be characterized as nuclear waste and disposed of in accordance with accepted nuclear waste disposal guidelines.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 4.2.2.3.1

Page #: 4-28

Line #: 24

Original Specific Comment #: 14

Comment: The text states that if unanticipated debris such as USTs, pipes, and similar items are encountered during

excavation, excessive soil will be removed. The text does not indicate how DOE will evaluate the impact of the unanticipated debris on soil quality. The text should be revised to describe DOE's approach for evaluating the debris' impact on the soil.

Commenting Organization: U.S. EPA
Section #: 4.2.2.3.2 Page #: 4-28
Original Specific Comment #: 15

Commentor: Saric
Line #: 32

Comment: The text states that if unanticipated nonsoil residue or process waste is encountered during soil excavation, the material will be excavated. The text does not indicate how DOE will evaluate the impact of this highly contaminated material on the soil in the area. The text should be revised to describe DOE's approach for evaluating the material's impact on the soil in the area.

Commenting Organization: U.S. EPA
Section #: Figure 4-9 Page #: 4-31
Original Specific Comment #: 16

Commentor: Saric
Line #: NA

Comment: The figure provides a flow chart for material destination decisions for above- and below-WAC soils. One of the options identified for above-WAC soil is "waste management treatment and disposal." The figure should be revised to label this option as "waste management treatment." In addition, Page 4-32, Line 13 refers to above-WAC soil that would not undergo treatment if it is not cost-effective. The figure should be revised to incorporate this option. Finally, Page 4-33, Line 8 states that untreated, below-WAC material may be transported off site for treatment and disposal. The figure should be revised to include this option.

Commenting Organization: U.S. EPA
Section #: 4.2.3.2 Page #: 4-33
Original Specific Comment #: 17

Commentor: Saric
Line #: NA

Comment: The text states that stockpiles for soil containing above-WAC concentrations of COCs will be maintained in the former production area and that stockpiles for soil containing below-WAC concentrations will be maintained outside the former production area. The text does not indicate how potential cross-contamination between the stockpiles and the ground will be minimized. Also, the text does not indicate how the potential for COC migration by precipitation runoff and wind will be minimized. The text should be revised to address these issues.

Commenting Organization: U.S. EPA
Section #: 4.2.3.2 Page #: 4-33
Original Specific Comment #: 18

Commentor: Saric
Line #: 21-24

Comment: The text describes use of color-coded signage to identify stockpiles used for above- and below-WAC soils. Along with these measures, use of color-coded field transfer logs that would accompany waste transfers is recommended. The text should be revised to include use of color-coded field transfer logs.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 4.4, Table 4-8 Page #: 4-58

Line #: NA

Original Specific Comment #: 19

Comment: The table describes oversight activities to be conducted by DOE and the regulatory agencies. The table does not include informal review of project-specific plans. The table should be revised to include this review.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 6.1.1

Page #: 6-2

Line #: 13

Original Specific Comment #: 20

Comment: The text states that the slurry dewatering facility sludge contains concentrations of organic compounds that are four to five orders of magnitude lower than the WAC. However, the text does not indicate how DOE will assess the impact of these organic compounds on the integrity of the OSDF liner. The text should be revised to address this issue.